



## **BRIEF IN SUPPORT OF PETITION FOR WRIT OF CERTIORARI**

### **I**

#### **Opinions Below**

The opinion of the District Court Judge (Hon. Edward Conger) is published in 49 Fed. Supp. 782.

The original opinion of the Circuit Court of Appeals is published in 144 Fed. 2nd 191. The opinion of the Circuit Court of Appeals denying rehearing is published in 146 Fed. 2nd 723 and at page 21 herein.

### **II**

#### **Jurisdiction**

The grounds of jurisdiction are:

(a) This writ is to review the decree of the Circuit Court of Appeals for the Second Circuit filed January 4, 1945 affirming a decree of dismissal in an action for infringement of United States Letters Patent.

(b) The statute under which jurisdiction is invoked is U. S. C. A., Title 28, Section 347; U. S. J. C. Section 240a as amended by the Act of February 13, 1925.

### **III**

#### **Statement of the Case**

Petitioners patent related to a special type of electric motor called "homopolar." Petitioner never had sufficient funds to build one and never induced others to. There was little prior art on the subject. The respondent built one large and expensive motor which petitioner claimed to in-

fringe his patent while respondent claimed it was built under its later patents, later by ten years.

The District Court found as a conclusion of law that it was "not necessary on the issue of infringement to pass on the question of the "homopolarity" of either the Logan Motor (respondents motor) or the device contemplated by the Engler patent," having found that the element in issue was no equivalent.

The Court of Appeals disagreed with the District Court and found that both motors were homopolar.

The court also found that the elements in issue were in fact equivalents but denied a favorable ruling because the substituted element was old.

The District Court had in its opinion set forth claim eight of the petitioners patent as follows:

1. In an electric motor,
- 2 the combination with,
3. a plurality of power windings,
4. and a plurality of magnetic members,
5. of reversible polarity,
6. relatively rotatable,
7. and in mutually inductive relation,
8. of current supply for causing motion of said members relatively to said windings to produce useful work
9. means for reversing the polarity in a synchronous cycle
10. and means for rendering ineffective the electromotive force induced by said reversals

and said

“this leaves in dispute \*elements 5, 9 and 10.

The Trial Courts opinion said:

“The plaintiff argues that cutting out an armature coil in the Logan Motor (respondents device) and cutting it in again a half revolution later is equivalent to Engler reversal (element 5). I have puzzled over this a great deal. I cannot see it. There is no reversal in the Logan Motor. The similarity, I find is the result accomplished in rotation. Of course this does not spell out infringement.”

Thus the District Court summarily disposed of the only real issue in the case without reference to the testimony.

The District Court accordingly found as Facts No. 13 and No. 14

13. “There is nothing in the Logan Motor equivalent to elements 5 and 9 of the Engler patent”.
14. “There is not present in the Logan Motor either specifically or by equivalents means for rendering ineffective the electromotive force induced by said reversals.” (element 10)

It is obvious that the case turns on the finding with respect to element 5 because if the corresponding element in respondents device is an equivalent then a favorable ruling must follow on 9 and 10.

In fact the District Court so ruled in its opinion and this ruling cannot be seriously challenged.

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\* The Court suggested a possible dispute of element 4 but called it unimportant. The respondents device had a single magnetic member used cyclically with each power winding, just as a six cylinder automobile could have a carbureter for each cylinder though in practice a single carbureter is used for all.

The Trial Court opinion had said

“Indeed the attorney for the plaintiff in summation before me stated in substance that if I found for the plaintiff on element 5, element 9 would follow and also element 10. *I agree with him.*”

The record substantiates this view. Since the only real controversy is with respect to element 5, elements 9 and 10 can be disposed of with a few words.

Element 9 is “means for reversing the polarity in a synchronous cycle.”

Petitioner showed that cutting certain coils out and cutting them in again at a later time in the respondents device, as hereinafter argued at length, was an equivalent of element 5. This was particularly established by the cross examination of Prof. Dawes, appellees expert witness.

Thereafter Dawes further testified with respect to element 9 as follows:

Q. If under the law the cutting out of coil 2 and putting it back in again at a later period is an equivalent to reversing the field, it likewise is done in a synchronous cycle, giving “synchronous cycle” the same general meaning?”

A. Yes; any one coil is always cut in for the same position of the motor shaft.”

Element 10 called for “means for rendering ineffective the electromotive force induced by said reversals.

This was referred to by the petitioner as the “trigger circuit”. It consisted of a distributor or mechanical switch on the end of the motor shaft which controlled a small electric current which operated a relay or electric magnetic switch which cut the armature coils of petitioners motor in and out at certain periods.

A similar device cut the armature coils in and out in the respondents device. The distributor on the end of the shaft was the same but instead of using a relay it used a three element vacuum tube. As in petitioners device a small current controlled by the distributor operates the vacuum tube making it cut the coils in at certain times. It is well known that this vacuum tube was invented by Lee DeForest in 1906 and was available as an equivalent for a relay before petitioners invention and application for patent in 1911.

As a matter of fact respondent claims its device was made under certain patents to Alexanderson many years later than petitioners patent. During the prosecution of the Alexanderson Patents certain claims were rejected. They call for a vacuum tube, referred to as a "valve" or "electronic valve." The patent office rejected the claims holding that the vacuum tube or "valve" in combination was only an equivalent of a mechanical switch in earlier combination patents.

The respondent appealed citing that ruling as error. The patent office was affirmed in the Board of Appeals and in the Court of Custom and Patent Appeals 21 U. S. P. Q. 164.

Returning again to a consideration of element 10 both the District Court and the Circuit Court of Appeals held that there was no such element in respondents device, but without any reference to or consideration of Prof. Dawes testimony as follows:

Speaking of respondents device Dawes testified Tr 392

Q. Isn't that what you do here? You mechanically cut coils in and out by the distributor at the end of the shaft?

A. No, we do it with tubes.

Q. Now, what causes the tubes to operate?

A. Well, the trigger voltage applied to the grid.

and at pages 526-527:

Q. Let me rephrase my question. The e.m.f. which we have spoken of as the e.m.f. of reversal in Engler's motor is Fig. 2 of the Engler patent is rendered ineffective because the coil is opened while that e.m.f. is generated; is that right?

A. That is right.

Q. Now, in the Engler motor, the distributor and relay cut the coil out and cut it in again at certain times, don't they?

A. Yes.

Q. And that I am going to tell you is what Engler refers to as his trigger circuit. You have understood, have you not, that that is what he meant by his trigger circuit?

A. Yes.

Q. In the Logan motor, the coil 2 is cut out because a phase of the alternating current reaches zero and the tube goes dead; is that right; and it won't pass any more current?

A. That is right.

And he further testified

Q. No; I mean the whole trigger circuit.

A. Yes, they both cause the coil to be connected at some definite time of the revolution of the shaft.

Q. That is right. So that, technically speaking, the distributor on the end of the Thyatron shaft and the distributor in the Engler motor, that is, No. 20 in Fig. 1 of the Engler patent, to distinguish it from the commutator, they are alike, they are *technical equivalents*, and serve the same purpose?

A. If you confine your question to closing the circuit—

Since the courts had found that there was no element 5 (reversible polarity), it is obvious that they would find

no e.m.fs. of reversal and consequently no means to eliminate e.m.fs. of reversal.

It is equally obvious that if there is an equivalent to element 5 in respondents device then favorable rulings must follow with respect to 9 and 10. Consequently the only issue is whether there is an equivalent to element 5 and the argument is directed to that point.

#### IV

**Specification of assignment of errors intended to be urged.**

The Circuit Court of Appeals erred in:

1. Affirming the decree of the District Court dismissing the plaintiff's complaint, and,
2. Failing and refusing to enter a decree of infringement and to order an accounting of damages and profits in favor of the plaintiff against the defendant.
3. Failing and refusing to find equivalents to all the elements of claim 8 in respondents device and more particularly in not reversing findings of Facts No. 13 and No. 14.
4. In ruling that substituted element used in respondents device could not be an equivalent because it was old.

#### V

#### **Questions Raised**

The questions sought to be reviewed are:

Was the Second Circuit Court of Appeals wrong in holding that a substituted element in a combination claim could not be an equivalent if it was old and well known prior to the invention in question, in view of



the cases in this Court; and should not the Second Court of Appeals have found equivalents and accordingly infringement on the matters in issue?

## VI ARGUMENT

### POINT 1

**A substitute element is an infringing equivalent in a combination claim if it performs the same function and was known prior to the invention in question.**

This rule has been firmly established in this Court for many years by a long line of cases:

In the leading case of *Seymour v. Osborne*, 78 U. S. 516, 556, the court said:

“Mere formal alterations in a combination in the letters patent however, are no defense to the charge of infringement, and the withdrawal of one ingredient from the same and the substitution of another which was well known at the date of the patent as a proper substitute for the one withdrawn, is a mere formal alteration of the combination if the ingredient substituted performs substantially the same function as the one withdrawn.”

In *Water Meter Co. v. Desper*, 101 U. S. 332, the court said:

“It is equally well known that if any of the parts is formally omitted, and is supplied by a mechanical equivalent, performing the same office and producing the same result, the patent is infringed.”

*Paper Bag Patent Case*, 210 U. S. 405;

*Sanitary Refrigerator Co. v. Winters*, 280 U. S. 31, 41, 42;

*Winans v. Denmend*, 56 U. S. 330, 342.

## POINT 2

### **Element 5 Is Found In Respondents Device In Equivalent Form**

The Trial Court opinion had said:

"The plaintiff argues that cutting out an armature coil in the Logan Motor (respondent's device) and cutting it in again a half revolution later is equivalent to Engler reversal (element 5). I have puzzled over this a great deal. I cannot see it. There is no reversal in the Logan Motor."

Professor Dawes had testified on cross examination that the elements were equivalent.

Tr. 473:

"Q. So that where Engler's claim says, 'a reversible field', insofar as the result is concerned, the cutting out of coil 2 and the cutting in of coil 3 (in respondents motor) gives an equivalent result, doesn't it?

A. Yes.

Q. So aside from patent law or the construction of patent law equivalents, the technical equivalent produces the same result and it is done for the same purpose?

A. I would say the result of producing rotation is the same."

There is no question of facts but a few words may clarify the meaning of the expression "of reversible polarity" (element 5).

An examination of Claim 8 shows that there are power windings (the armature coils or stationary coils); a magnetic member or members (the rotating field coils). Elements 5, 6 and 7 then read "of reversible polarity, relatively rotatable, and in mutually inductive relation."

This simply means as Dawes testified in cross examination in Tr. 404:

"You create a north pole on the stationary member and a south pole on the rotary member and then as the two poles attract each other you do something, *change one to the other*, so that continual motion results."

Like poles attract each other and unlike poles repel each other.

The above testimony simply means that you create unlike poles, that is a north pole and a south pole, in the armature and field until they attract each other. Then, you change one of them so that they repel each other and continue rotation. Both parties did this in such a way as to avoid reversal of the power current in the armature and thus obtained "homopolar" motors.

Professor Dawes made this clear in cross examination testifying as follows:

"And the first step that each one does is release a coil—the Logan motor, one of the armature coils; and Engler's motor releases the field coil;" (Tr. 455).  
 "In the Engler motor, he puts the same coil back in \* \* \* and reverses the direction of the current," (Tr. 450).

"In the Logan motor, we put in another coil one-third away around the circle;" (Tr. 449).

In the Logan motor the same coil is cut back in the same direction more than one-half of a revolution later. In Engler it is put back immediately but with the current reversed but Professor Dawes agrees that:

"If we waited a half a revolution before we put the Engler coil in, we could put it back in the same direction."

To explain this we might consider a person riding on a merry-go-round. He can get to the other side of the merry-go-round, that is reverse his position by walking across the merry-go-round while it is turning, or, he can step off to the ground and step on again when the merry-go-round has turned a half revolution.

We may consider a person looking at a picture. He can see the other side of the picture either by turning the picture around or by holding the picture still and walking around to the other side.

There is no more difference than that between the two machines involved.

Cutting the coils in and out periodically as the respondent does changes or reverses the polarity of the armature poles or otherwise it would be impossible for the motor to run. The Court of Appeals on rehearing stated that it recognized the equivalency of function though for some reason not appearing in the record the court chose to call it "intermittent polarity" rather than "reveral polarity."

Thus there is no question of fact on the equivalency of element 5, the Court of Appeals simply having failed to follow the rule of this court.

### POINT 3

#### **Respondents Device Has A Trigger Circuit (element 10), Which Eliminates e.m.fs. of Reversal**

The Court of Appeals said on rehearing that "any stray current in the defendants motor is simply ignored." If by stray current the Court meant induced e.m.fs., they are ignored in respondents device the same as in petitioners device, that is, by cutting out the armature coils periodically.

This reversal of polarity in the armature was accompanied by e.m.fs. which were eliminated by cutting the coils out and Dawes so testified on cross examination.

Tr. 513-514:

Q. Then let me begin over. You have said in the armature coil of Engler that there is a transformer voltage when you reverse the polarity of the field coil; is that right.

A. That is right.

Q. And because the field coil is in motion at that time, you also have some slight speed voltage effect also?

A. That is right.

Q. I say the same is true with respect to coil 2? Or I am asking you.

Mr. Neave: Coil 2 in what?

Mr. Ring: Coil 2 in the Thyatronmotor, the Logan motor.

Q. From the time you start to cut it out until the time it is cut in effectively again, you have had both a transformer voltage and a speed voltage induced in that coil, whether they are in the same direction or opposed to each other?

A. That may be true, but the transformer voltage is not due to any effect of the field.

Q. All right; I will accept that answer. Whatever it is due to, it is there, isn't it?

A. I prefer to call it an electromotive force of self-induction. But it is due to changing of the flux in a stationary coil.

Q. It is a transformer voltage, nevertheless, isn't it?

A. That is right.

Q. Now, in the Engler coil, that combination of speed and transformer voltage is rendered ineffective by what he calls a trigger circuit, that is, the dis-

tributor 20 which operates the relay 14; isn't that right?

A. That is right.

and at Tr. 521:

Q. You also agree that Engler could accomplish the same result, though perhaps only half as efficient, if he cut out his field coil and put it back in again a half a revolution later in the same direction instead of reversing it; is that right?

A. Oh, he could do that.

Q. So the expression "e.m.fs. of reversal", in that expression the "of reversal" does not describe the e.m.fs.; it means, does it not, that two successive e.m.fs. in the same direction were brought about by the reversal of the coil?

A. That is right.

and at Tr. 474-475:

Q. So that Engler's claim says "a reversible field" insofar as the result is concerned the cutting out of the coil 2 and the cutting in of coil 3 (in Logan motor) gives an equivalent result, doesn't it?

A. Yes.

Q. Produce the same. So aside from patent law or the construction of patent law equivalents, the technical equivalent produces the same result and it is done for the same purpose?

A. I would say the result of producing rotation is the same.

Q. That is what I mean, of helping to produce rotation and preventing it from being locked in one position?

A. That is right.

### Conclusion

All the facts in this case are clearly established by the cross examination of appellees expert.

"A case that can be made out in all its elements by cross-examination of opposing witnesses is a strong case."

*Eibel Process Co. v. Minnesota*, 261 U. S. 45, 53.

The courts below have erred in denying infringement on erroneous rulings of law principally in holding that a substitute element is not equivalent if it was old. In such conclusions they have assumed that to hold an old substitute to be an equivalent would be to give a new patent on an element. This ignores the fact that the patent is on the entire combination and not on any element.

The court is urged to grant this petition because the ruling is of great public importance. This court frequently speaks of protecting public interest. The public includes the great army of inventors who have created industrial America and they should be protected against exploitation by the great and powerful corporations. There is far more danger to the public from a monopoly of a great corporation than from an individual patent.

The decisions of this and other courts have from time to time suggested a fundamental opposition to patents in the belief that they were basically undesirable monopolies. The court is urged to consider another point of view. The greatest fund of scientific knowledge and development available for the public lies in the nearly two and one-half million patents divided and sub-divided into classes. There can be no doubt that patents, both by virtue of the knowledge made available for others at low cost, and the inducement to inventors to achieve new re-

sults have contributed greatly to the industrial achievements of the past several years. The writers of the Constitution and the Congress wisely realized this in making the written law.

President Roosevelt realized this when in a letter to the Senate Committee on patents, according to the New York Times of April 14, 1942 he said that in this country

“patents are the key to our technology, technology is the key to production and production is the key to victory.”

The few cents paid in royalties or damages for patent infringement, even though passed on eventually to the public, is a small price for the great achievements of a successful patent system.

To sustain a patent may at first seem a burden on the public but there are endless cases which show the eventual great reward to the public by sustaining patents. It is impossible to say how much of our great industrial achievement would have resulted even though we had no patent system but it is sound to believe that much is due to the patent system. There are three strong reasons for this suggestion.

First: The hundreds of thousands of patent applications show that as many inventors are striving for new scientific results inspired in part by the hope of obtaining a patent.

Second: Millions of patents available at ten cents a copy make the most up-to-date developments available to the public at low cost long before it is available in text books.

Third: To sustain a patent inspires those affected thereby to strive for new results to avoid infringement.



It is urged that the simple issue of this case is of great public importance and a certiorari be granted to review and clarify the matter.

Respectfully submitted,

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New York City  
March 31, 1945.

